



Scratch-Built RC Car

Written By: Three Guys



TOOLS:

- [Oscillating table saw \(1\)](#)
- [Screwdriver, Flat head \(1\)](#)
- [Screwdriver, Phillips head \(1\)](#)
- [Soldering iron \(1\)](#)
- [Wire stripper/crimper \(1\)](#)
- [hand-held electric drill \(1\)](#)
- [jig saw \(1\)](#)
- [wire snips \(1\)](#)



PARTS:

- [Electric drill, motor \(1\)](#)
- [Electric drill, throttle switch \(1\)](#)
- [Electric drill, battery pack \(1\)](#)
- [Zip ties \(1\)](#)
- [medical syringe \(4\)](#)
- [RC Transmitter \(1\)](#)
- [RC receiver \(1\)](#)
- [RC receiver battery \(1\)](#)
- [Servo \(2\)](#)
- [Vacuum belt \(1\)](#)
- [RC wheels \(4\)](#)
- [1/2" PVC tubing \(Multiple\)](#)
- [1/2" PVC connectors \(Multiple\)](#)
- [RC ON/OFF switch \(1\)](#)
- [Peg board \(1\)](#)
- [Syringe cap \(4\)](#)
- [RC wheel mount \(4\)](#)
- [RC axle \(2\)](#)

SUMMARY

This guide will share ideas for common materials you can use to create a one-of-a-kind

remote-controlled car.

Step 1 — Open electric drill



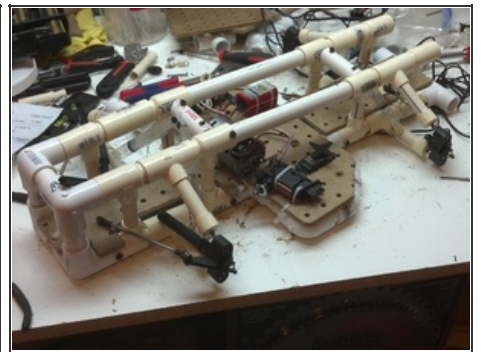
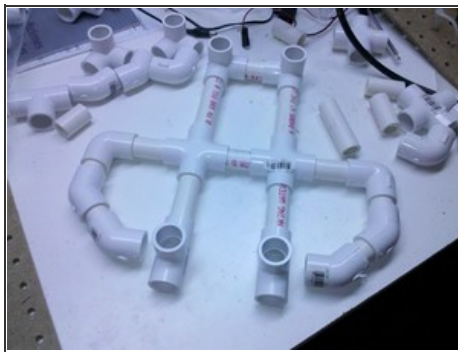
- Remove battery pack from drill.
- Remove screws as shown.

Step 2 — Remove drill motor and speed control



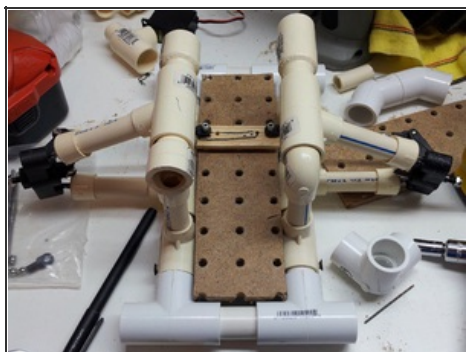
- Split electric drill in half.
- Remove electric drill motor and throttle switch assembly.
- Remove drill motor from casing and throttle switch from throttle body as shown.

Step 3 — Build chassis



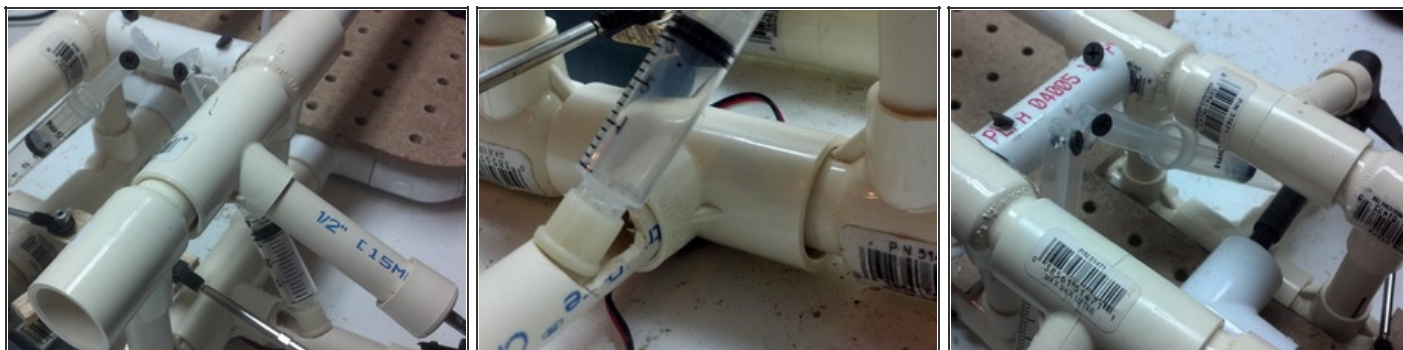
- We recommend that you arrange the PVC connectors on the table to determine your chassis profile. Here was our initial step.
- We cut pieces of PVC tubing to create the chassis frame.
- Here is the final chassis design.

Step 4 — Create suspension system



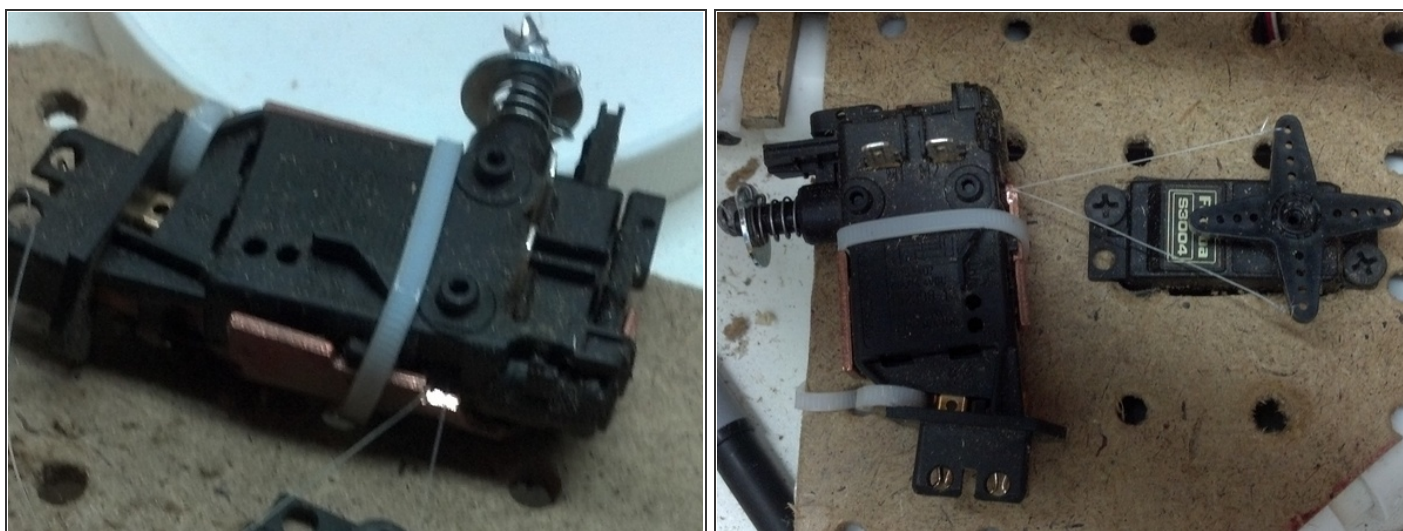
- Mount upper and lower swing arms to RC wheel mount as shown. Ensure movement of swing arms.
- Test wheel on suspension arms for clearance between chassis frame and ground.
- Use medical syringe with cap to create strut.

Step 5



- Mount handle of syringe to chassis frame as shown.
- Create recessed notch for syringe cap to interface with lower swing arm as shown.
- Repeat for all four wheel positions.

Step 6 — Throttle system



- Modify throttle switch by removing inner throttle button spring and replacing with lighter-duty outer spring as shown. Use a washer and pin to keep outer spring in place.
- Next, drill a hole through the throttle button, through the throttle assembly and fish through fishing line as shown.
- Tie ends of fishing line to servo arms as shown.

Step 7 — Drive system



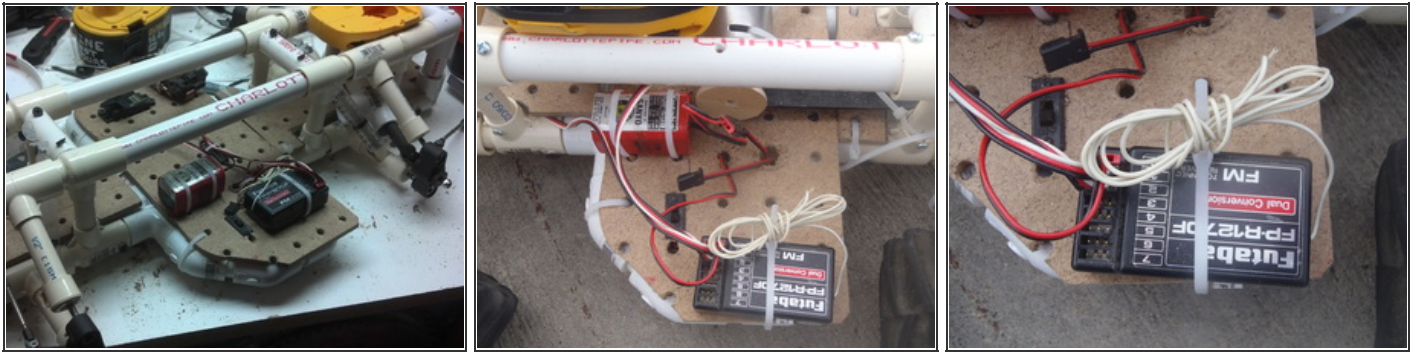
- Use RC axles to connect rear wheels together. Route the axles through a piece of PVC tubing with a hole to feed the vacuum belt through as shown. Secure PVC tubing to chassis.
- Mount electric drill motor to chassis as shown. Create a wooden drum with a shoulder to ensure that the vacuum belt stays in place.

Step 8 — Steering system



- Mount servo to chassis as shown. Create and mount steering servo connector piece as shown. Connect steering arms to the connector piece as shown.

Step 9 — Radio-control system



- Mount receiver to chassis.
- Mount battery pack for receiver to chassis.
- Connect steering and throttle servo wires to receiver.

Step 10



- Finished product!

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